

1. SHNAYDER, YE.YE.
2. USSR (600)
4. Sugar Machinery
7. "Work of a preheater with small diameter pipes"(B. Zimmermann, "Listy Cukrovarnick  
vol. 68, no. 6, 1952, p. 140) Sakh.prom. 26 no. 12, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHINAYDER, Ye. Ye.

One-column diffusion past and present [Listy Cukrovarnicke 70  
no. 7 '54]. Reviewed by E. E. Snaider. Sakh. prom. 29 no. 3:40 '55.  
(Diffusers) (Sugar industry--Equipment and supplies) (MLRA 8:8)

SHNAYDER, Ye. Ye.

The Czechoslovak journal "Listy Cukrovarnicke" in 1954. Sakh.  
prom. 29 no. 3:42-44 '55. (MLRA 8:7)  
(Czechoslovakia--Sugar industry--Periodicals)

SHNAYDER, Ye. Ye.

"Ionites, their properties and use [in Czech]. J. Smid. Reviewed  
by E. E. Shnaider. Sakh. prom. 29 no. 4:47 '55. (MLRA 8:9)  
(Ion exchange) (Smid, J.)

SHNAYDER, Ye.Ye.

Methods for increasing the sugar yield from massecuite and lowering  
the number of boilings of products. ("Listy cukrovarnicke", no.6, 1955)  
Abstracted by E.E. Shnaider. Sakh. prom. 30 no.5:67 My '56. (MIRA-9:9)  
(Sugar industry)

SHNAYDER, Ye.Ye.

New developments in the production of liquid sugar in the U.S.A.  
(This is liquid Sugar". 1955; "Zeitschrift für die Zuckerindustrie",  
no.12, 1955). Abstracted by E.E. Shnaider. Sakh.prom. 30 no.5:73-74  
My '56. (Syrups) (MIRA 9:9)

SHNAYDER, Ye.Ye.

Extraction of sugar out of sugar-beets (Listy cukrovarnicke" no.7 1955).  
Abstracted by E.E.Shnaider. Sakh. prom. 30 no.5:74 My '56. (MLRA 9:9)  
(Sugar industry)

SHNAYDER, Ye.ye.

The loss of sugar in the unused sugar beet tailings and small pieces.  
("Listy cukrovarnicke", no.1 1956). Abstracted by E.E.Shnaider. Sakh.  
prem. 30 no.5:74 My '56. (MIRA 9:9)  
(Sugar industry--By-products)



SHNAYDER, Ye.Ye.

Observations on the operation of Olier diffusion apparatus  
("Zeitschrift für die Zuckerindustrie" no.11 1955). Sakh.  
prom. 30 no.8:72 Ag. '56. (MLRA 9:11)  
(Diffusers)

SHNAYDER, Ye.Ye.

Sugar campaign of 1955-56 in Czechoslovakia ("Listy Cukro-  
varnické" no.4 1956). Sakh.prom. 30 no.8:75 Ag. '56.  
(Czechoslovakia--Sugar industry) (MLRA 9:11)

SHNAYDER, Ye.Ye.

Characteristics of sugar-cane production (From "Listy cukrovarnicka,"  
no.2 1956) [Reviewed by E.E. Shneider]. Sakh.prom. 30 no.9:78-79  
S '56. (MIRA 10:3)

(Sugar cane)

SHNAYDER, Ye.Ye.

Microbiological investigation of sugar (from "Listy Cucrovarnicko,"  
no.3 1957). Reviewed by E.E. Shnaider. Sakh. prom. 31 no.11:72 N  
'57. (MIRA 11:1)

(Sugar--Bacteriology)

SHNAYDER, Ye.Ye.

Determining the decolorizing capacity of bone char (from "Listy  
Gucrovarnicke," no.7 1957). Reviewed by E.E. Shnaider. Sakh. prom.  
31 no.11:72 N '57. (MIRA 11:1)

(Animal charcoal)

SHNAYDER, YE. YE.

SHNAYDER, Ye. Ye.

Effect of the magnetic field on scale formation (from "Listy  
Gucrovarnicke," no.12 1956). Reviewed by E.E. Shnaider. Sakh.  
prom. 31 no.11:72-73 N '57. (MIRA 11:1)  
(Evaporating appliances)

SHEUNTOVA, M.Ye.; SHNAYDER, Ye.Ye.; CHEPIGO, S.V.

Combined hydrolysis of vegetable matter by concentrated sulfuric  
acid. Uzb. khim. zhur. no.381-92 '58. (MIRA 11:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sul'fitnospirovoy i  
gidroliznoy promyshlennosti.  
(Lignin) (Hydrolysis) (Sulfuric acid)

SHNAYDER, Ye.Ye.

Determining moisture loss in white granulated sugar (from "Listy  
cukrovarnické," no. 1, 1958). Sakh. prom. 32 no. 6:74 Je '58.  
(MIRA 11:7)

(Sugar--Storage)



SHNAYDER, Ye.Ye.

Polyelectrolytes as coagulants (from "Listy cucrovarnicke", nos. 4 and 5 1958). Sakh. prom. 32 no.8:69-70 Ag '58. (MIRA 11:9)  
(Electrolytes) (Sugar manufacture)

SHNAYDER, Ye.Ye.

Ammonia as fertilizer for sugar beets (from "Listy Cukrovarnicke"  
no.1, 1958) Sakh.prom. 32 no. 9:72 S '58. (MIRA 11:11)  
(Czechoslovakia--Ammonia) (Czechoslovakia--Sugar beets)

SHNAYDER, Ye.Ye.

Boiling out of the evaporator (from "Listy Cukrovarnicke, "No.5,  
1958). Sakh.prom. 32 no.12:56 D '58. (MIRA 11:12)  
(Czechoslovakia--Sugar industry--Equipment and supplies)  
(Corrosion and anticorrosives)

SHNAYDER, Yo.Ye.

Almanac of the sugar beet planter. Sakh. prom. 32 no.12:63 D '58.  
(MIRA 11:12)  
(Czechoslovakia--Sugar growing)

SHNAYDER, Ye.Ye.

Cold desugarization of green sirup (from "Listy Gukrovarnicka, "  
No.6, 1958). Sakh. prom. 33 no.2:71-72 F '59. (MIRA 12:3)  
(Czechoslovakia--Sugar manufacture)

SHNAYDER, Ye. Ye.

Filtration of saturation juice (from "Chem. zvésti," No.3, 1958).  
Sakh. prom. 33 no.4:70 Ap '59. (MIRA 12:6)  
(Sugar manufacture)

SHNAYDER, Ye.Ye.

Trip to Austria (from "Listy cukrovarnické," No.6, 1958). Sakh.  
prom. 33 no.4:71-72 Ap '59. (MIRA 12:6)  
(Austria--Sugar beets)

SHNAYDER, Ye.Ye.

Works of the Rumanian Scientific Research Institute of the Food  
Industry, 1958, vol. 2. Sakh. prom. 33 no.4:77 Ap '59.  
(MIRA 12:6)

(Sugar manufacture)



SHNAYDER, Ye.Ye.; SHPUNTOVA, M.Ye.; CHMPIOO, S.V.

Combined method of corncob hydrolysis with concentrated sulfuric acid.  
Gidroliz. i lesokhim.prom. 13 no.7:1-4 '60. (MIRA 13:10)

1. Nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirovoy  
promyshlennosti.  
(Corncobs) (Hydrolysis)

SHCHAYDER, Ye.Ye.

Investigating the particles of a deposit obtained in the first  
carbonation by different methods of juice purification.

Sakh.prom. 34 no.9:72-73 S '60.

(MIRA 13:9)

(Sugar manufacture)

ODINTSOV, P.N.; KALNIN'SH, A.I. [Kalnins, A.]; KAL'NINA, V.K.; CHEPIGO, S.V.;  
SHNAYDER, Ye.Ye.; SHPUNTOVA, M.Ye.

Hydrolysis of plant materials by concentrated sulfuric acid.  
Gidroliz. i lesokhim.prom. 14 no.3:1-4 '61. (MIRA 14:4)

1. Institut lesokhozyaystvennykh problem i khimii drevesiny Akademii  
nauk Latvyskoy SSR (for Odintsov, Kalnin'sh, Kal'nina). 2. Nauchno-  
issledovatel'skiy institut gidroliznoy i sul'fitno spirtovoy  
promyshlennosti (for Chepigo, Shnayder and Shpuntova).  
(Hydrolysis) (Wood---Chemistry)

SHNAYDER, Ye. Ye.

Testing of a pneumatic dryer for potato starch (from "Prumysl  
Potravin," 12, no.7, 1961). Sakh. prom. 36 no.10:71 0 '62.  
(MIRA 15:10)

(Czechoslovakia--Drying apparatus--Testing)

SHPUNTOVA, M.Ye.; SHNAYDER, Ye.Ye.; CHEPUGO, S.V.; LAZAREVA, L.V.;  
MASLOVA, L.G.; ROSHCHINA, V.I.; Prinimali uchastiye: PAVLENKO, V.M.,  
starshiy laborant; GERASIMOVA, L.I., starshiy laborant

Pentose hydrolysis of cottonseed hulls and corncobs with hexose  
hydrolyzates. Sbor.trud. NIIGS 11:7-15 '63. (MIRA 16:12)

NAYDENOV, A.K.; SHNAYDER, Ye.Ye.; SHPUNTOVA, M.Ye.

Dryer for cellolignin obtained from corncobs. Gidroliz. i  
lesokhim. prom. 16 no.6:7-10 '63. (MIRA 16:10)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'-  
skogo instituta galurgii.

GAZANCHIYANTS, M.G.; LASTOVTSEV, A.M.; MARTYUSHIN, I.G.; PLANOVSKIY, A.N.;  
KHARAKOZ, V.V.; SHNAYDER, Ye.Ye.

Apparatus for the processing of finely dispersed vegetable materials.  
Gidroliz. i lesokhim. prom. 18 no.6:5-6 '65. (MIRA 18:9)

1. Moskovskiy institut khimicheskogo mashinostroyeniya (for all  
except Shnayder). 2. Vsesoyuznyy nauchno-issledovatel'skiy in-  
stitut biosinteza belkovykh veshchestv (for Shnayder).

CHAYKOVSKY, D.I., (1914-1984), U.S.S.R. tech.

Removal of chambers for welding from water walls. Energetik 13  
no.6:16-17 Je 1977. (MIRA 18:7)



28(1)

PHASE I BOOK EXPLOITATION

SOV/1432

Shnayderman, Iosif Berkovich

Tabulyatory T-4M i T-4MI; elementy avtomaticheskogo upravleniya i metody kommutatsii (T-4M and T-4MI Tabulating Machines; Elements of Automatic Control and Methods of Switching) Moscow, Metallurgizdat, 1958. 199 p.  
2,000 copies printed.

Ed.: Bulavko, Yu. M.; Ed. of Publishing House: Lanovskaya, M.R.; Tech. Ed.: Mikhaylova, V.V.

Purpose: The book is intended for design engineers dealing with automatic calculation. It may also be useful to students of vuzes and vocational schools studying computing machines.

COVERAGE: The author describes automatic control of the T-4M and T-4MI tabulators and the IP-45 summary punch. He also presents a detailed discussion of the control panel hubs and control levers and shows their interaction with the electrical circuits. The operation and switching of the various mechanisms of the tabulators are also described. No personalities are mentioned. There are no references.

Card ~~1~~/6

SHNAYDERMAN, I. YA.

Shnayderman, I. Ya. "Analytical computation of cutter profile  
for cutting trapezoidal high-pitch thread," *Izvestiya Kiyevsk,  
Politekhn, in-ta*, Vol VIII, 1948 (on cover: 1949), p. 231-48

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'aykh Statey, No. 26, 1949)

SHNAYDERMAN, I.Ya., kandidat tekhnicheskikh nauk.

Waviness of surfaces following threading by the vortex method.  
Vest.mash. 36 no.10:35-39 0 '56. (MLRA 9:11)  
(Screw cutting)

ANISIMOV, Yefim Georgiyevich; SHNAYDERMAN, I.Ya., kand.tekhn.nauk,  
retsenzent; ONISHCHENKO, N.P., inzh., red.; RUDENSKIY, Ya.V.,  
tekhn.red.

[Design of machine-tool attachments in lot production] Pro-  
ektirovanie stanochnykh prisposoblenii v seriinom proizvodstve.  
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959.  
165 p. (MIRA 13:1)

(Machine tools--Attachments)

25(2)

SOV/117-59-4-10/36

AUTHOR: Shnayderman, I.Ya., Candidate of Technical Sciences

TITLE: A Mobile Rest for Lathes.

PERIODICAL: Mashinostroitel', 1959, Nr 4, pp 23-26 (USSR)

ABSTRACT: Design and operational information is presented on a mobile lathe rest developed by the author in two design variations (with one support jaw and manual control, and with automatic control of the jaws), both for machining non-rigid stepped shafts with increasing and decreasing step diameters or with alternating smaller and larger step diameters in a range of 60-80 mm. The first variation (Figures 1 and 2) corresponds to the dimensions of the lathe "1A62", the second (Figure 3) is for use with automated tool control (as in work with the hydro-tracer toolrest, or the V.K. Seminskiy attachment). The inventions were registered in 1957 (Author's Certificate Nr 103228 of 3 Apr 1957). There are 3 sets of diagrams.

Card 1/1

SHNAYDERMAN, I.Ya.; KIRILYUK, Yu.Ye.

Head with quick-interchangeable cutting-tool holders. Mashinos-  
troitel' no.9:26 S '60. (MIRA 13:9)  
(Lathes)

SHINAYDERMAN, I.Ya., kand. tekhn. nauk

Adjusting multicut heads in cutting screw threads by the vortex  
method. Vest.mash. 40 no.10:67-68 0'60. (MIRA 13:10)  
(Screw cutting)

SHNAYDERMAN, I.Ya.

Graphic method for selecting cutting conditions. Mashinostroitel'  
no.1:24-25 Ja '61. (MIRA 14:3)  
(Metal cutting)



SHNAYDERMAN, I.Ya., kand.tekhn.nauk

Development and introduction of multiple machining on turret lathes.  
Mashinostroenie no.2:9-15 Mr-Ap '62. (MIRA 15:4)

1. Kiyevskiy politekhnicheskii institut.  
(Factory management) (Lathes)

SHNAYDERMAN, I.Ya., kand. tekhn. nauk

Automatic thread-rolling unit. Mashinostroitel' no.5:5-6 My '65.  
(MIRA 18:5)

KARTAVOV, Sergey Alekseyevich, prof.; LEVCHENKO, Andrey Matveyevich, kand. tekhn. nauk; RUDNIK, Sergey Sergeyevich, doktor tekhn. nauk; BOVSUNOVSKIY, Yakov Ivanovich, kand. tekhn. nauk; BAZHENOV, Ivan Ivanovich, kand. tekhn. nauk; KOVALENKO, Vladimir Vladimirovich, kand. tekhn. nauk; LOMACHENKO, Zinaida Nikolayevna, kand. tekhn. nauk; MIL'SHTEYN, Mark Zel'manovich, kand. tekhn. nauk; RADCHENKO, Yuliya Gavrilovna, kand. tekhn. nauk; REZNICHENKO, Mikhail Petrovich, kand. tekhn. nauk; TRUBENOK, Aleksandr Davidovich, kand. tekhn. nauk; KHRISTICH, Zakhar Dem'yanovich, kand. tekhn. nauk; SHNAYDERMAN, Isay Yakovlevich, kand. tekhn. nauk; GOLUBOV, N.P., kand. tekhn. nauk, retsenzent; DUMANSKAYA, V.A., kand. tekhn. nauk, retsenzent; MAKSIMOV, G.D., kand. tekhn. nauk, retsenzent; YAKOVENKO, G.A., kand. tekhn. nauk, retsenzent

[Technology of the manufacture of machinery] Tekhnologiya mashinostroeniia. [By] S.A.Kartavov i dr. Kiev, Tekhnika, 1965. 526 p. (MIRA 18:7)

1. Kafedra tekhnologii mashinostroyeniya Kiyevskogo politekhnicheskogo instituta (for all except Golubov, Maksimov, Yakovenko).

SHKIDLOVA, L. (Alma-Ata)

An important factor in the increase of material self-interest  
in agricultural production. Vop. ekon. no. 2:146-149 F '61.  
(MIRA 14:2)

(Kazakhstan--Agricultural wages)

SHNAYDERMAN, L.M.

USSR

✓ Liver function in hypertension. T. I. Fursova and L. M. Shnayderman (Med. Inst. Chelyabinsk). *Klin. Med. (U.S.S.R.)* 32, No. 11, 70 (1954).—Slight impairment of carbohydrate metabolism and a significant disturbance of detoxifying function were noticed among a no. of patients. The Takata-Aara and Weltman tests were pos. in a majority of cases. Bilirubin was normal. A. S. Mirkin

SHNAYDERMAN, P.Ya., vrach

Dental caries in children of Chistopol' in the Tatar  
A.S.S.R. Vop. obshchei stom. 17:7-8 '64.

(MIRA 18:11)

SHNAYDERMAN, S.Ya.; CHERNAYA, N.V.

Pyrocatechinates and pyrogallates complexes of titanium  
in methanol and water-methanol solutions. Zhur. neorg.  
khim. 10 no.1:224-230 Ja '65. (MIRA 18:11)

1. Submitted June 5, 1963.

CA  
Investigation of equilibrium reactions. I. Determination of the equilibrium constant of the reaction  $\text{BaCO}_3 + \text{SO}_3 \rightleftharpoons \text{BaSO}_3 + \text{CO}_2$ . N. A. Tananaev and S. Ya. Shnaiderman. *J. Applied Chem. (U.S.S.R.)* 10, 340-7 (in French 348) (1937).—An equil. of the above reaction is reached in 12 days and its equil. const.,  $K$ , is 0.3 (at about 20°). The theoretical equil. const. ( $K$  by 19) is not equal to that found experimentally, but by correcting it for the increase in soly. of  $\text{BaCO}_3$  because of its hydrolysis, the corr. theoretical const. ( $K = 0.25$ ) agrees well with the exptl. one. In spite of slow establishment of the equil., the reaction between  $\text{BaCO}_3$  and  $\text{Na}_2\text{SO}_3$  proceeds to the extent of 18% in the 1st min., and that of  $\text{Na}_2\text{CO}_3$  and  $\text{BaSO}_3$  to the extent of 10% in the same time. II. Determination of the equilibrium constant of the reaction  $\text{CaC}_2\text{O}_4 + \text{Pb}^{++} \rightleftharpoons \text{PbC}_2\text{O}_4 + \text{Ca}^{++}$ . N. A. Tananaev and A. I. Volkova. *Ibid.* 349-53 (in French 353).—The equil. const. (reached in 55 hrs.) of the above reaction is  $A = 57.8$  at about 8°, corresponding to 98.3% completion of the reaction. The theoretical equil. const. is  $A = 115$  (at 18°), but after correction for the soly. of

2  
the reactants at 8°, the const. becomes  $K = 60$ , which is in a satisfactory agreement with the exptl. data. III. Determination of the equilibrium constant of the reaction  $\text{BaC}_2\text{O}_4 + \text{CO}_2 \rightleftharpoons \text{BaCO}_3 + \text{C}_2\text{O}_4^{--}$ . N. A. Tananaev and N. V. Yunitskaya. *Ibid.* 354-9 (in French 359).—The equil. const. (reached in 2 hrs.) of the above reaction is  $K = 20.55$  at 16-18°, which does not agree with that found by theoretical calcn. ( $K = 90$ ). The following method for a rapid detn. of the equil. const. is proposed: 10 cc. of exactly 0.1  $N$   $\text{BaCl}_2$  is added to a mixt. of 20 cc. of  $\text{Na}_2\text{C}_2\text{O}_4$  and 20 cc. of  $\text{Na}_2\text{CO}_3$ , both exactly 0.1  $N$ , the resulting mixt. is shaken for 5-10 min. and filtered. Then the aliquot (25 cc.) of the filtrate is titrated for  $\text{Na}_2\text{CO}_3$ . A parallel expt. is made in exactly the same manner, but the oxalate is detd. in the filtrate instead of  $\text{Na}_2\text{CO}_3$ . The results of detn. are multiplied by 2 and subtracted from the initial amt. of  $\text{Na}_2\text{CO}_3$  and  $\text{Na}_2\text{C}_2\text{O}_4$ , resp. The ratio of the reacted  $\text{Na}_2\text{CO}_3$  to that of  $\text{Na}_2\text{C}_2\text{O}_4$  is the equil. const. (approx.). A. A. P.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION



**The pH value as an indicator in qualitative analysis.** N. A. Tananaev and S. Ya. Shnaiderman, *J. Appl. Chem.* (U. S. S. R.), 10, 924 (1937); *Chem. Zentr.* 1937, II, 4072.—With the help of indicators and buffer solns., the pH values of salts having cations in the 2nd, 3rd, 4th and 5th groups of the periodic table were detd. in 1, 0.1 and 0.01 N concns. The pH values varied between 0 and 7. From the pH of an unknown salt soln. information regarding the nature of the cation present can be deduced. E. g., a pH of 4, 5 or 6 suggests the presence of Al, Cr, Fe, Bi, Sn, Sb or Hg. A pH of 6 or above is characteristic of Zn, Cd and Mn salts. A pH of 1 or 5 indicates Pb, Ag and Hg.

SHNAYDERMAN, S. Ya.

Chromotropic acid as analytical reagent. I. Interaction of copper with chromotropic acid. S. Ya. Shnayderman. Ukrain. Khim. Zhur. 19, 327-30 (1953); Referat. Zhur., Khim. 1954, No. 13231.—At pH 5-11,  $\text{Cu}^{++}$  reacts with chromotropic acid to give a red soln. The optimum conditions are pH not below 9, heating to incipient boiling, and 20-fold excess of reagent. The reaction cannot be used for detg. Cu because the intensity of the color changes with time. To the analyzed soln., add an acetate-ammoniacal buffer at pH 5-11 and an excess of chromotropic acid. Heat the mixt. to boiling and cool in water. Fe, Sn, Sb, Bi, and Mn compds. which hydrolyze at this pH interval interfere and their effect is obviated by filtering off the ppt. formed before chromotropic acid is added. The sensitivity of this reaction is  $3 \gamma$  Cu in 20 ml. soln. M. Hosh.

MET

SHNAYDERMAN, S. Ya. USSR.

Chromotropic acid as analytical reagent. II. Reactions of chromotropic acid with some ions. S. Ya. Shnayderman and N. P. Movchan. *Ukrain. Khim. Zhur.* 19, 429-433 (1953); *Referat. Zhur., Khim.* 1953, No. 18564; cf. C.A. 49, 1469h. The ions, the color, and the pH at which the color appears in reactions with chromotropic acid are:  $\text{Fe}^{+++}$ , green, 1.6-6.2;  $\text{Cu}^{++}$ , red-brown, 5.0-11.0;  $\text{Hg}^{++}$ , yellow, 3.0-6.0;  $\text{Ag}^{+}$ , bright-yellow ppt., 0-6.0 and dark-brown ppt., 8.0-10.0;  $\text{Ti}^{++}$ , red, 0.8-3.8, orange, 4.0-5.0, yellow, 5.1-9.0;  $\text{UO}_2^{++}$ , red-brown, 4.0-10.0;  $\text{CrO}_4^{--}$ , red,  $[\text{H}^{+}] = 10N-10^{-1}N$ ;  $\text{NO}_3^{-}$ , yellow,  $[\text{H}^{+}] = 10N-10^{-1}N$ ;  $\text{WO}_4^{--}$ , yellow, 4.3-6.0, red, 6.2-10.0;  $\text{MoO}_4^{--}$ , yellow, 4.0-7.0, red, 7.0-10.5;  $\text{VO}_3^{-}$ , yellow, 0-6.0, red, 8.0-10.0;  $\text{NO}_2^{-}$ , yellow, concd.  $\text{H}_2\text{SO}_4$ . The optical d. of the red compd. of the chromotropic acid with  $\text{Ti}^{++}$  reaches a max. at pH 3.9 and the yellow compd. at pH 4.3-7.8. The max. optical d. for  $\text{Fe}^{+++}$  is at pH 5.0, for  $\text{UO}_2^{++}$ ,  $\text{WO}_4^{--}$ , and  $\text{MoO}_4^{--}$  compds. at pH 0-0, and for  $\text{NO}_3^{-}$  in 1-5N  $\text{H}_2\text{SO}_4$ .  $\text{Fe}^{+++}$  interferes with the colorimetric detn. of  $\text{Ti}^{++}$  and at pH < 2.5 also  $\text{VO}_3^{-}$  because  $\text{Fe}^{+++}$  compds. with chromotropic acid have an appreciable optical d. at pH 2-4 and  $\text{VO}_3^{-}$  at pH 0.8-2. With the detn. of  $\text{CrO}_4^{--}$  only  $\text{NO}_3^{-}$  interferes. Chromotropic acid does not react with  $\text{NH}_4^{+}$ , Na, K, Ca, Sr, Ba,  $\text{Fe}^{++}$ ,  $\text{Cr}^{+++}$ , Ni, Co, Zn, Cd,  $\text{Hg}^{+}$ , Bi, Sn, Sb, Pb,  $\text{Ti}^{+++}$ , Be, Th, Zr, Tl, La, Ce, Nd, Pr, Rb, Cs, phosphates,  $\text{S}_2\text{O}_3^{--}$ ,  $\text{SO}_3^{--}$ ,  $\text{AsO}_4^{--}$ ,  $\text{CO}_3^{--}$ ,  $\text{SiO}_3^{--}$ ,  $\text{B}_2\text{O}_3$ ,  $\text{F}^{-}$ ,  $\text{Cl}^{-}$ ,  $\text{Br}^{-}$ ,  $\text{SO}_4^{--}$ ,  $\text{CNS}^{-}$ ,  $\text{Fe}(\text{CN})_6^{--}$ ,  $\text{Fe}(\text{CN})_6^{--}$ ,  $\text{S}^{--}$ , Me,  $\text{COO}^{-}$ ,  $\text{SeO}_4^{--}$ ,  $\text{TeO}_4^{--}$ ,  $\text{IO}_3^{-}$ ,  $\text{BrO}_3^{-}$ , and  $\text{ClO}_3^{-}$ . The expts. were carried out with solns. contg.  $1.25 \times 10^{-4}$  g-ion/l. The chromotropic acid soln. contained  $6.25 \times 10^{-4}$  g. mol./l. M. Haseh

SHNAIDERMAN, S. Ya.  
Y

1225. Qualitative analysis of cations without the use of hydrogen sulphide. S. Ya. Shnaiderman. Izv. Kievsk. Politekh. Inst., 1954, 14, 140-141. Referats Zh. Khim., 1955, Abstr. No. 14,143. The cations are divided into five groups on the basis of the solubilities of the chlorides, sulphates, basic salts, hydroxides and ammonia complexes.  
Group I—Ag<sup>+</sup>, Pb<sup>2+</sup>, Hg<sup>2+</sup>, Ba<sup>2+</sup> and Sr<sup>2+</sup>; group reagent—a mixture of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> and HCl. Group II—El<sup>3+</sup>, Sn<sup>2+</sup>, Sn<sup>4+</sup>, Sb<sup>3+</sup> and Sb<sup>5+</sup>; group reagent—water, by diluting the solution and heating. Group III—Fe<sup>2+</sup>, Fe<sup>3+</sup>, Al<sup>3+</sup> and Cr<sup>3+</sup>; group reagent—aq. NH<sub>3</sub>. Group IV—Co<sup>2+</sup>, Ni<sup>2+</sup>, Cu<sup>2+</sup>, Cd<sup>2+</sup>, Hg<sup>2+</sup>, Mn<sup>2+</sup> and Mg<sup>2+</sup>; group reagent—NaOH solution after dissolution in excess of aq. NH<sub>3</sub> and NH<sub>4</sub>Cl. Group V—NH<sub>4</sub><sup>+</sup>, K<sup>+</sup>, Na<sup>+</sup>, Ca<sup>2+</sup> and Zn<sup>2+</sup>; no group reagent. Cations within a group are detected in most cases by fractional reactions. G. S. SMITH

CH

1225

SHNAIDERMAN, S. Y.

4

1314. Chromotropic acid as an analytical reagent.  
III. Interaction of nitrites with chromotropic acid.

S. Ya. Shnaiderman. *Izv. Kievsk. Politekh. Inst.*, 1954, 14, 102-105; *Referativnyi Zh., Khim.*, 1955, Abstr. No. 14,251. Chromotropic acid gives with solutions of nitrites a yellow colour, the intensity of which depends on the acidity and time after mixing. The mol. concn. of the reagent should be  $\approx 5$  times that of the nitrite. The concn. of acid,  $H_2SO_4$  or  $HCl$ , should be between  $N$  and  $5N$ . Beer's law is not obeyed. To detect  $NO_2'$ , 1 to 2 ml of the solution are mixed with 1 ml of  $0.01 M$  reagent solution and 1 to 2 ml of 3 to 5  $N$  mineral acid. In the presence of  $NO_2'$  a yellow colour appears after 5 min. and its intensity increases with time. Ferro- and ferri-cyanides,  $CrO_4^{2-}$  and  $Cr_2O_7^{2-}$  interfere, but  $NO_2'$  do not. As little as  $5 \mu g$  of  $NO_2'$  can be detected in 50 ml viewed through a 100-mm depth. To determine  $NO_2'$ , 25 ml of solution containing 0.05 to 0.2 mg are treated with 2 to 3 ml of  $0.01 M$  reagent and 10 ml of  $5 N H_2SO_4$ , the solution is diluted to 50 ml and the extinction is measured at 400 to 500  $m\mu$  with a blue filter after 2 hr. A calibration curve is obtained under the same conditions.

G. S. Shteyn

CH

AB  
25/4

SHNAYDERMAN, S. YA.

USSR/ Chemistry - Analytical chemistry

Card 1/1            Pub. 116 - 19/25

Authors        :    Shnayderman, S. Ya.

Title           :    Phenols as nitrite reagents

Periodical    :    Ukr. khim. zhur. 21/1, 99-103, 1955

Abstract       :    It was established experimentally that phenol and naphthol solutions can be utilized in the role of analytical reagents for the detection of small amounts of nitrites. The reaction sensitivity varies between 0.5 and 5mg/kg. A close relation was established between the color intensity and the acidity of the solution, surplus of the reagent, time of reaction and nitrite concentration. A method for colorimetric determination of nitrites was also introduced. Three USSR references (1946-1954). Table; graphs.

Institution:    The Polytechnicum, Kiev

Submitted    :    December 28, 1953 and June 10, 1954

Shnayderman, S. Ya.

USSR/ Chemistry - Analytical chemistry

Card 1/1 Pub. 116 - 21/24

Authors : Shnayderman, S. Ya.

Title : ~~Discovery and colorimetric determination of Au with the aid of ascorbic acid~~  
Discovery and colorimetric determination of Au with the aid of ascorbic acid

Periodical : Ukr. khim. zhur. 21/2, 261-264, 1955

Abstract : It was proven experimentally that ascorbic acid is a highly sensitive reagent for Au. The acid was found to be the most suitable medium for qualitative discovery and colorimetric determination of Au. The optimum conditions favorable for carrying out the reaction at low acidity were established at 3 - 6 pH values. Data regarding the optical density and transparency of colloidal Au solutions are included. Three references: 2 USSR and 1 English (1927-1942). Tables; graphs.

Institution : The Kiev Polytechnic Inst.

Submitted : February 20, 1954

*Shnayderman, S. Ya.*  
USSR/Analytical Chemistry - General Questions

G-1

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8365

Author : Shnayderman, S. Ya.

Inst : Kiev Polytechnic Institute

Title : Chromotropic Acid as an Analytical Reagent. Communication IV.  
Determination of Titanium in the Presence of Iron and Vanadium

Orig Pub : Izv. Kievsk. politekhn. in-ta, 1956, Vol 17, 197-203

Abstract : Cast iron or steel (0.5 gms) are dissolved in 20 ml  $H_2SO_4$  (1 : 3); when the samples have dissolved completely, 1-2 ml conc.  $HNO_3$  are added to destroy the carbides and oxidize the iron. The solution is cooled and transferred to a 50 ml volumetric flask; water is added up to the mark, 1-2 ml of the solution (depending on the expected Ti content) are transferred to a 50-ml volumetric flask with a micropipette, and carefully neutralized with 10% ammonia until a weakly acidic reaction is obtained, characterized by the appearance of slowly dissolving turbidity, at which point 1-2 ml of 3% ascorbic acid are added. The contents of the flask are shaken, 1-2 ml of 2% chromotropic acid are added and the solu-

Card 1/2

-4-

USSR/Analytical Chemistry - General Questions

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8365

tion is diluted to the mark with a pH 2-3.5 buffer solution; the intensity of the color of the solution is measured. At pH 4.3-7.8 the yellowish Ti complex exhibits maximum constant optical density. The discoloration of the solution by sodium fluoride stops at pH 4.7. For communication 3 see RZhKhim, 1955, 14251.

Card 2/2

-5-



USSR/Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8433

the solution is adjusted to the mark, the solution is stirred,  
and its optical density is determined with a photocolormeter.  
The Au content of the solution is determined from a calibration curve.

Card 2/2

-20-

SHMAYDERMAN, S. Ya.

SHMAYDERMAN, S. Ya.

Complex formation in the system titanium - chromotropic acid.  
Zhur.neorg.khim. 2 no. 9:2122-2125 S '57 (MIRA 10:12)  
(Titanium) (Naphthalenedisulfonic acid)

SHNAYDERMAN, S.Yn., dots., kand.khim.nauk; ROBEROVA, I.B.

Relationship of phenols to ion series. Izv. KPI 20:108-126 '57.  
(Phenols) (Ions) (Colorimetry) (MIRA 11:3)

AUTHOR: Shnayderman, S. Ya.

73-1-18/26

TITLE: Colour Reactions of Titanium with Phenols. (Tsvetnyye  
Reaktsii Titana S Fenolami.)

PERIODICAL: Ukrainskiy Khimicheskiy Zhurnal, 1957, Vol. 23, No.1,  
pp 92 - 96 (USSR).

ABSTRACT: Titanium gives colour reactions with many phenols. The colour depends on the character of the phenols, the concentration of titanium and the acidity of the solution. Particularly strong tendencies to complex-formation occurs in the case of poly-atomic phenols containing the -OH or -OH and -COOH groups occur side by side. Experiments on the inter-reaction of iron-, molybdenum-, vanadium, titanium- and cerium-salts with various phenols were carried out. On the interaction of some phenols and hydroxy-acids with diluted solutions of the above salts (of the order  $10^{-2}$  -  $10^{-4}$  mole) an intensive coloration of the solutions is only obtained when pyrogallol, pytocatechol and gallic acid are used as reagents. Strong phenols either do not react at all or form slightly coloured compounds with the salts of iron and titanium. Experimental data on the reaction of titanium with phenols in strong and weak acid solutions are discussed. The dependance of colour on the concentration of the

Card 1/2

Colour Reactions of Titanium with Phenols.

73-1-18/26

sulphuric acid, on the excess reagent and on time was investigated spectrophotometrically. Diagrams giving the composition of Ti-chromotropic substances at pH 3-4, the relation of the optical density and the molar concentrations of phenols and titanium (graph 2), on the percentage content of sulphuric acid for various phenols (graphs 3 and 4) illustrate results obtained during spectrophotometric investigations. There are 5 diagrams and 5 references, 2 of which are Slavic.

SUBMITTED: August, 21, 1956.

ASSOCIATION: Kiyev Polytechnical Institute. (Kiyevskiy Polytekhnicheskii Institut.)

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Shnayderman, S. Ya., SOV/79-29-1-6/74  
 Khrustalev, G. I. (Deceased)

TITLE: The Reaction of Molybdate and Vanadate With Phenols in  
 Aqueous Solutions and Concentrated Sulfuric Acid  
 (Vzaimodeystviye molibdata i vanadata s fenolami v vodnykh  
 rastvorakh i v kontsentrirrovannoy sernoy kislote)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 20-27 (USSR)

ABSTRACT: Vanadium and molybdenum with some phenols form colored com-  
 pounds in aqueous solutions and in concentrated sulfuric acid.  
 Individual phenols are used as reagents in the case of  
 colorimetric determination of vanadate and molybdate (Refs 1,2).  
 Apart from the investigations carried out by Levy (Ref 3)  
 where the colors of the solutions in concentrated sulfuric  
 acid are given, the authors found no mentions in publica-  
 tions concerning problems of the reaction of vanadium (5 +)  
 and molybdenum (6 +) with oxy-compounds. This is the reason  
 for their dealing with the problem. Experiments yielded the  
 following results: Vanadates and molybdates yield intensely  
 colored solutions with oxy-compounds at a percentage of  
 4-10% only in the case if their complex forming groups are

Card 1/3

The Reaction of Molybdate and Vanadate With Phenols  
in Aqueous Solutions and Concentrated Sulfuric Acid

SOV/79-29-1-6/74

in ortho-position towards one another. In concentrated sulfuric solution oxy-compounds change their color independently of their structure. The color of the concentration depends to a great extent on the surplus of the reagent and in highly acid solutions on the concentration of sulfuric acid. The most intense color is caused by sulfuric acid. In case the acid is diluted it decreases. It is not easy to find a range for the concentration of sulfuric acid in which the color is stabilized. The dependence between the color of the solutions upon the molar ratio of the oxy-compound and vanadate or molybdate points to the possibility of a formation of complex compounds. Thus, the character of the reactions of vanadate and molybdate was determined with phenols in a weakly acid medium, and the composition of the compounds in concentrated sulfuric acid. The spectrophotometric investigation, the dependence of the color of the concentration of sulfuric acid on the excess of reagent and time are given by 8 diagrams. There are 8 figures, 4 tables, and 11 references, 8 of which are Soviet.

Card 2/3

The Reaction of Molybdate and Vanadate With Phenols  
in Aqueous Solutions and Concentrated Sulfuric Acid

SOV/79-29-1-o/74

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnical  
Institute)

SUBMITTED: August 4, 1957

Card 3/3



5.5300  
S/153/60/003/02/08/034  
B011/B003

5.5300

AUTHOR:

Shnayderman, S. Ya.

TITLE:

Photometric Investigation of the Reaction of Titanium (IV)  
With Phenols in Acetic Acid

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i  
khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2,  
pp. 258-264

TEXT: In the article under review, the author intended to investigate the complex formation of titanium with phenols in acetic medium. Furthermore, the most important physicochemical characteristics of the compounds formed and the possibilities of using these substances for the colorimetric determination of titanium were to be studied. The results obtained by the author with respect to the system titanium salt - phenol - acetic acid are listed. The author mixed titanium solutions with phenols which were used in optimum excess so that the titanium concentration was  $10^{-3}$  g-ion/l, whereas the total volume of the

Card 1/3

00150

Photometric Investigation of the Reaction  
of Titanium (IV) With Phenols in Acetic  
Acid

S/153/60/003/02/08/034  
B011/B003

solution was 1 ml. These mixtures were diluted to 10 ml with glacial acetic acid. After 5 minutes the color of the solution was visually ascertained. The sensitivity of the reactions in concentrated acetic acid is shown in Table (p. 259). Hence it may be seen that a strong coloring occurs which may be used for the colorimetric analysis. The most sensitive reagent is chromotropic acid. Other phenols and their derivatives were the following: phenol, guaiacol, thymol, pyrocatechol, resorcinol, hydroquinone, pyrogallol, phloroglucinol, gallic acid,  $\alpha$ - and  $\beta$ -naphthol. The author proved that all hydroxy compounds form complexes with titanium (IV) in acetic acid only when the acetic acid is concentrated. An exception is made by the complex of the titanium chromotropic acid and titanium gallic acid. The titanium complex with the chromotropic acid is destroyed in concentrated acetic acid. The author proved that titanium can be analytically determined with chromotropic acid in a wide concentration range of the acetic acid. The composition of the complex of the titanium chromotropic acid in a 25 - 75% acid in a ratio of titanium : chromotropic acid = 1 : 4

Card 2/3

Photometric Investigation of the Reaction  
of Titanium (IV) With Phenols in Acetic  
Acid

S/153/60/003/02/08/034  
B011/B003

was determined by means of the method of isomolar series. The reaction of its formation is represented by the author as follows:

$Ti^{4+} + 4[C_{10}H_4(OH)_2(SO_3)_2]^{2-} = Ti[C_{10}H_4O_2H(SO_3)_2]_4^{8-} + 4H^+$ . A structural formula is also given. The dependence of the optical density of the phenols enumerated and their derivatives on the molar concentrations of the phenols and of titanium (Fig. 1), on the concentration of the acetic acid (Fig. 2), and on time (Fig. 3) is given in Figs. 1-3. The light-absorption curves of the titanium-chromotropic acid complex are illustrated in Fig. 4. The stable composition of this complex between 1 - 120 h is proven in Fig. 5. There are 5 figures, 1 table, and 21 references, 10 of which are Soviet.

ASSOCIATION: Kiyevskiy politekhnicheskii institut; Kafedra analiticheskoy khimii (Kiyev Polytechnic Institute; Chair of Analytical Chemistry)

SUBMITTED: June 17, 1958

Card 3/3

SHEIAY DERMAN, S.Ya.

Color reactions of titanium with phenols in strongly acidic solutions.  
Trudy kom. anal. khim. 11:273-284 '60. (MIRA 13:10)  
(Titanium) (Phenols)

S/073/60/026/005/013/019  
B004/B063

AUTHOR: Shnayderman, S. Ya.

TITLE: Phenol Complexes of Tetravalent Vanadium in Sulfuric Acid

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 5,  
pp. 653 - 657

TEXT: Proceeding from Ref.1 the authors have studied the formation of colored complexes from vanadyl chloride ( $\text{VOCl}_2$ ) and various phenols in  $\text{H}_2\text{SO}_4$ . Whereas phenol, thymol, resorcinol, hydroquinone, phloroglucinol, gallic and chromotropic acids showed no color reactions, colors were obtained from pyrocatechol, pyrogallol, and guaiacol, which were green at a concentration ratio of  $[\text{phenol}] : [\text{vanadin}] > 1$  and brown at  $[\text{phenol}] : [\text{vanadin}] < 1$ . No color reactions occurred in hydrochloric, acetic, and phosphoric acid solutions. The colored solutions showed no Tyndall effect. The sensitivity of the color reactions to vanadium amounted to 1.9  $\gamma/\text{ml}$  with guaiacol, 1.7  $\gamma/\text{ml}$  with pyrocatechol, and 1.4  $\gamma/\text{ml}$  with pyrogallol. This reaction was affected by  $\text{Fe}^{2+}$ ,  $\text{Fe}^{3+}$ ,

Card 1/2

Phenol Complexes of Tetravalent Vanadium in  
Sulfuric Acid

S/073/60/026/005/013/019  
B004/B063

and  $\text{Cu}^{2+}$ , and to a small degree by  $\text{Cr}^{3+}$ , and also by alkaline-earth ions when using guaiacol. Disturbing anions were  $\text{NO}_2^-$ ,  $\text{I}^-$ ,  $\text{S}_2\text{O}_3^{2-}$ , and  $[\text{Fe}(\text{CN})_6]^{3-}$ . Light absorption was recorded by an  $\text{CF}-5$  (SF-5) spectrophotometer, and its dependence on the concentration of  $\text{H}_2\text{SO}_4$  was studied.

At a constant sulfuric acid concentration the solutions obeyed the Beer law. In the case of pyrocatechol and guaiacol, the maximum of absorption was reached at a concentration ratio of V : phenol = 2 : 1, while it was reached at 3 : 1 in the case of pyrogallol. There are 4 figures and 2 Soviet references.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnic Institute)

SUBMITTED: June 10, 1958

Card 2/2

SHNAYDERMAN, S.Ya.; KALINICHENKO, I.Ye.

Complexes of titanium with pyrogallol. *Izv.vys.ucheb.zav.; khim.i*  
*khim.tekh.* 4 no.6:897-904 '61. (MIRA 15:3)

1. Kiyevskiy politekhnicheskoy institut, kafedra analiticheskoy  
khimii.

(Titanium compounds) (Pyrogallol)

SHNAYDERMAN, S.Ya.; KALINICHENKO, I.Ye.

Pyrocatechol complexes of titanium. Zhur.neorg.khim. 6 no.8:1843-1849  
Ag '61. (MIRA 14:8)

(Titanium compounds) (Pyrocatechol)



SHNAYDERMAN, S.Ya.; KALINICHENKO, I.Ye.

Extraction of phenolic complexes of titanium. Ukr.khim.zhur.  
27 no.3:402-407 '61. (MIRA 14:11)

1. Kiyevskiy politekhnicheskii institut.  
(Titanium compounds)  
(Phenol)

SHNAYDERMAN, S.Ya.; KALINICHENKO, I.Ye.

Acetate complexes of titanium. Dokl. AN SSSR 139 no.4:910-912  
Ag '61. (MIRA 14:7)

1. Kiyevskiy politekhnicheskii institut. Predstavleno akademikom  
A.A. Grinbergom.  
(Titanium compounds)

SHNAYDERMAN, S.Ya.; GALINKER, E.V.

Pyrocatechol complexes of uranyl. Zhur.neorg.khim. 7 no.2:279-  
283 F '62. (MIRA 15:3)

(Uranyl compounds) (Pyrocatechol)

SHNAYDERMAN, S.Ya.; SHERSTYUK, V.P.

Chromotropic complexes of molybdenum. Zhur.neorg.khim. 8 no.2:  
457-463 F '63. (MIRA 16:5)  
(Molybdenum compounds) (Naphthalenedisulfonic acid)

SHNAYDERMAN, S.Ya.

Photometric study of the system Vanadium (IV) - phenols. Zhur.-  
neorg.khim. 8 no.2:464-473 F '63. (MIRA 16:5)

1. Kiyevskiy politekhnicheskii institut.  
(Vanadium compounds) (Phenols)

[illegible]

determination of titanium by means of chromotropic acid in  
aqueous solutions. Izv. vuz. khim. i khim. tekhn. 7 no. 1:511-517 1964. (Ukr. 7)

(MCPA 17:20)

1. Uchebnyy psikhoklinicheskiy institut, kafedra analiticheskoy psikhii.

SHNAYDERMAN, S.Ya.; KNYAZEVA, Ye.N.

Complex formation in the systems titanium (IV) - pyrogallol-  
antipyrine and titanium (IV) - pyrogallol - antipyrine. Ukr.khim.  
zhur. 30 no.11:1135-1141 '64. (MIRA 18:2)

1. Kiyevskiy politekhnicheskii institut.

SHNAYDERMAN, S.Ya.; KNYAZEVA, Ye.N.

Complex formation in the systems titanium (IV) - gallic acid - antipyrine and titanium (IV) - pyrogallolcarboxylic acid - antipyrine.  
Ukr. khim. zhur. 31 no.1:27-32 '65. (MIRA 18:5)

1. Kiyevskiy politekhnicheskij institut.



SHNAYDERMAN, S.Ya.; CHERNAYA, N.V.

Effect of alcohol and water-alcohol solvents on the  
stability of titanium phenol complexes. Zhur.neorg.khim.  
11 no.1:134-137 Ja '66. (MIRA 19:1)

1. Submitted June 30, 1964.

KNYAZEVA, Ye.N.; SHNAYDERMAN, S.Ya.

Complex formation in the system  
titanium (IV)-o-polyphenols-pyramidon. Zhur.neorg.khim.  
10 no.8:1848-1852 Ag '65. (MIRA 19:1)

1. Submitted September 16, 1964.

L 23621-66 EWT(1)/EWT(m)/EWA(d)/T/EWP(t) IJP(c) JD/JM

ACC NR: AP6009516

SOURCE CODE: UR/0413/66/000/005/0037/0037

AUTHOR: Balashov, A. N.; Shnayderman, V. I.

ORG: none

TITLE: A method for making electrical resistors from microwire. Class 21, No. 179367

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 37

TOPIC TAGS: microwire, resistor

ABSTRACT: This Author's Certificate introduces a method for making electrical resistors from microwire in glass insulation on the basis of Author's Certificate No 114718. The metal is heated to the melting point so that the forces of surface tension convert the wire into a system of small spheres connected by thin bridges. The metal is pre-heated to a temperature close to the melting point and a current pulse is then sent through the wire. This pulse gives sufficient extra current to melt the wire and has a duration somewhat shorter than the time required for sphere formation.

SUB CODE: 09/ SUBM DATE: 23Dec64/ ORIG REF: 000/ OTH REF: 000

UDC: 621.316.842-  
-181.4

Card 1/1 *pla*

S/599/62/000/031/005/006  
A066/A126

AUTHOR: Shnaydman, A.V.

TITLE: Determination of the characteristics of a constant turbulence in some layers of the free atmosphere

SOURCE: Kiyev. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut. Trudy, no. 31, 1962. Voprosy fiziki atmosfery, 54 - 59

TEXT: A theory is put forward for calculating the coefficient of turbulence in layers of the free atmosphere with great vertical gradients of temperature and wind velocity. The theory is based on the following assumptions: 1) The coefficient of turbulence depends only slightly on the coordinates, and the value  $\bar{K}$  averaged over the layer can be used with a fairly high degree of accuracy. 2) The conversion of turbulence energy into heat may be neglected. 3) The direction of the geostrophic wind varies only slightly with altitude. Thus, the equations of motion read as follows:

$$\bar{K} \frac{d^2 u}{dz^2} + 2 \omega_z v = 0 ,$$

(1)

Card 1/3

S/599/62/000/031/005/006  
A066/A126

Determination of the characteristics of a ....

$$\bar{k} \frac{d^2 v}{dz^2} - 2 \omega_z (u - u_g) = 0, \quad (2)$$

where  $2 \omega_z$  denotes the Coriolis parameter, and  $u_g$  is the velocity of the geostrophic wind. The equilibrium of turbulence energy is given by

$$\int_{-H}^H \left[ \left( \frac{du}{dz} \right)^2 + \left( \frac{dv}{dz} \right)^2 \right] dz = \int_{-H}^H \frac{g}{T} (\gamma_a - \gamma) dz, \quad (3)$$

and the thickness  $2H$  of the turbulized layer is obtained from

$$\int_{-H}^H \left[ \left( \frac{du}{dz} \right)^2 + \left( \frac{dv}{dz} \right)^2 \right] dz = (1 - \mu) \int_{-\infty}^{\infty} \left[ \left( \frac{du}{dz} \right)^2 + \left( \frac{dv}{dz} \right)^2 \right] dz. \quad (4)$$

If the profile of the geostrophic wind is known, the equation of motion can be solved for three layers:  $z \leq -h$ ;  $-h \leq z \leq h$ ;  $z \geq h$ . The extensive solutions indicate that the wind may deviate from the geostrophic state both negatively and positively. This depends on the variations of the geostrophic wind with al-

Card 2/3

S/599/62/000/031/005/006  
A066/A126

Determination of the characteristics of a ....

titude and with the position of the level for which these deviations are calculated.  $\bar{K}$  is obtained from the equilibrium equation for the energy of turbulence as follows:

$$\bar{K} = \frac{(\Delta u)^2 \omega_z}{0.695 g \bar{\beta}}, \quad (14)$$

where  $\bar{\beta} = \frac{1}{T (\gamma_a - \bar{\gamma})}$ ; the thickness of the turbulized layer is

$$2H = \frac{1.39}{\sqrt{\omega_z}} \sqrt{\bar{K}}.$$

It is concluded that the turbulence in the front zone increases with increasing sharpness of the front in the temperature field, with increasing inclination of the front, and with decreasing stability of the air in the separated air masses. The coefficient of turbulence is considerable in the vicinity of the front, and the degree of turbulence must be taken into account when calculating vertical motions, the cloudiness, and similar phenomena. There are 2 figures and 2 tables.

Card 3/3

NESIS, J.I.; KIN, A.I.; SHNYEVAN, I.K.; ENNS, F.G.

X-ray and pathomorphological comparisons between cardiac changes  
in anthracosilicosis. Izv. AN Kazakh SSR. Ser. med. nauk 11 no.  
2:50-55 '64. (UJR 17:7)

NESIS, A.I.; VIMARIK, E.M.; DVOYREN, V.L.; DZHANGOZINA, D.M.;  
KLYATSKINA, I.Ye.; FADEYEVA, Ye.I.; SHNAYDMAN, I.M.; IVAKINA, T.P.

Regression of experimental silicosis under the influence of  
hydrocortisone. Izv. AN Kazakh. SSR Ser. med. nauk 11 no.3:  
44-49 '64 (MIRA 18:1)



SHNAYDMAN, I.M. (Karaganda)

Histochemistry of some enzymes of the energy metabolism in the process of the formation of silicotic connective tissue. Arkh. pat. 27 no.11:34-40 '65. (MIRA 18:12)

1. Kliniko-rentgenologicheskiy otdel (zav. - dotsent A.I. Nesis) Kazakhskogo nauchno-issledovatel'skogo instituta gigiyeny truda i profzabolevaniy (direktor- kand.med.nauk Z.K.Tulegenov) i kabinet gistokhimii (zav. - kand.med.nauk N.T.Raykhlin) otdela patologicheskoy anatomii opukholey cheloveka (zav. - deystvitel'nyy chlen AMN SSSR prof. N.A. Krayevskiy) Instituta eksperimental'noy i klinicheskoy onkologii (direktor - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin) AMN SSSR. Submitted February 14, 1964.

RAYKHLIN, N.T.; SHNAYDMAN, I.M.

Histochemical study of the oxidation-reduction enzymes in experimental silicosis. Biul. eksp. biol. i med. 60 no. 10:112-116 (MIRA 19:1)  
O '65

1. Kabinet gistokhimii (zav. - kand. med. nauk N.T. Raykhlin) otdela patologicheskoy anatomii opukholey cheloveka (zav. - deystvitel'nyy chlen AMN SSSR prof. N.A. Krayevskiy) instituta eksperimental'noy i klinicheskoy onkologii (direktor - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin) AMN SSSR i kliniko-rentgenologicheskii otdel (zav. - dotsent A.I. Nesis) Nauchno-issledovatel'skogo instituta gigiyeny truda i professional'nykh zabolevaniy (direktor - kand. med. nauk Z.K. Tulegenov), Karaganda, Submitted April 10, 1964.

SHNAYDMAN, L.M., gornyy inzh.

Experiment of gas removal in the development workings by means  
of barrier boreholes in Mine No.26 of Karagandaugol' Combine.  
Ugol' 37 no.1:55-57 Ja '62. (MIRA 15:2)

1. Shakhta No.26 kombinata Karagandaugol'.  
(Karaganda Basin—Mine gases)

CA

28

Study of the physical properties of refined sugar. L. O. SHNAIDMAN. *Zhur.*  
*Sukharnoi Prom.* 3, 520-40(1920). V. R. BAIKOV

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CO

28

PROCESSES AND PROPERTIES

Determination of the actual sugar content in the filter-press cakes in connection with the modern point of view upon the chemistry of saturation. L. S. SAKHUMAN. *Nauk. Zapiski Tuzkrovoi Prom.* 9, 161 (1939). -- Adsorption of sugar rises with increase of the quantity of lime introduced at defecation, with an increase of the d. of juice or rise of temp. during carbonation. Detn. of the actual sugar content in the filter cakes is theoretically possible only when the cakes are in a highly dild. state. Accurate detn. of the sugar in the filter cakes is made possible by treating them with hot water and keeping in a state of dild. convenient for analysis followed by decompn. of calcium monosaccharate by  $\text{SO}_2$ .

V. E. BAIKOV

ASA SLA METALLURGICAL LITERATURE CLASSIFICATION

Direct production of raffinade without recrystallizing. I. I. ZHELIKMAN AND L. O. SUNATLAMAN.—*Nauk. Zapiski Taurorovsk. Prom.*, 9, No. 15, 1-44 (1932); *Facts About Sugar* 27, 253; cf. C. I. 26, 5444; 27, 620.—In the production of loaf and "hat" sugar by direct pressing of beet "sand sugar" without affination and recrystn., satisfactory results can be obtained if the following conditions are observed: The sand sugar must be mildly alk. (pH 7.2-7.8), the pressing must be done in the cold, the moisture content of the magma (to which a little powder sugar may be added) should not exceed 1.5%, and depends on the degree of pressure applied. The pressed leaves must be dried

content of the magma is 1.5%, and depends on the degree of pressure applied, the temp. not exceeding 70°; the original color of the sand sugar subjected to pressing must be sufficiently low (about 25° Stammer). For factory conditions where high-powered presses are not available, good results may be had by giving the mass a moisture content of 1.5% and a powd. sugar content of 15% and by using a pressure of 70 atm. If the presses are sufficiently powerful, good loaf can be made without addn. of powd. sugar. Under otherwise equal conditions the solidity of the cubes increases as the amt. of powd. sugar is increased, reaching a max. when the ratio of crystal to powder is 1:1; beyond this the solidity decreases. Cubes having the best outer appearance are obtained by pressing sugar of fairly large grain. G. G.

C. G.

ASD. SLA DETAILING LITERATURE CLASSIFICATION

2.3001 4000 1.75

047 100

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSIES AND PROPERTIES INDEX																																																			
<p>MAKING of beet sugar without recrystallization. L. O. SHNAIDMAN AND I. F. ZELIKMAN. <i>Nash. Zapiski Tekhnologii</i> 18, 41-88(1932).—The diffusion juice is sulfated to pH 4.5-5.0, defecated and carbonated, 2.5% CaO being used. Carbonated juice is filtered through filter presses and mech. filters. After second carbonation, sulfitation and filtration the juice is treated with Norit (up to 0.4% on the wt. of sugar in juice) and then filtered through filter presses. The sulfated and filtered thick juice mixed with remelt of sugar "B" and with first run off of massecuite "A" is treated with Norit (0.2% on the wt. of sugar), then filtered and boiled. The greens of massecuite "A" with remelt of sugar "C" and first run off of sugar "B" after the treatment with used Norit are boiled for sugar "B". The massecuite "C" is boiled from dark run off of massecuite "B" and light run off of massecuite "C" previously mixed together and treated with used Norit. After centrifuging and bleaching the massecuite "C," there are obtained 2 run offs. The light one is returned for boiling the massecuite "C," and the dark one is the final molasses. V. E. BAIKOV</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

Edible beet sirups. N. E. Lognov and L. O. Shnaldman. *Trans. Central Sci. Research Inst. Sugar Ind.* (U. S. S. R.) No. 13, 57-68(1933).—Regular thick beet juice treated with 1-2% of Norit after inversion gives an edible sirup of high quality. A thick beet juice, carefully purified and sulfited after second carbonation, is treated with 1-2% of Norit, to decrease the color and remove beet flavor. Fifty % of the thick juice is inverted in a copper vacuum pan at 90-92° in 2-2.5 hrs. at  $pH$  3.5-4.0. One % of HCl on the wt. of sirup is used. The other 50% of sirup is evapd. in a vacuum pan up to 70°Brix at 80°. The inverted part of the sirup is neutralized with soda to  $pH$  5.5, and mixed in the vacuum pan with the evapd. sirup. Then all is boiled to 76-78°Brix at a low temp. The contact of the inverted sirup with iron app. before neutralizing with soda must be avoided. Evapd. sirup must be quickly cooled. A no. of tables and descriptions of expts. are given. V. R. Balkow



1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
<p>CA</p>										<p>11E</p>																			
<p>New developments in the production of vitamin C. I.  D. Shyaldman. <i>Piskheraya Prom.</i> 1943, No. 1/2, 5-13.  Since 1942 new sources of vitamin C (I) have been found  and methods for their com. exploitation developed.  Methods for the extr. and concn. of I from rose hips  (2000 mg. % of I), green-walnut hulls (1000-1000 mg. %  of I), pine needles (150-300 mg. % of I), black currants,  and other plant materials are described. The production  of suitable expts. from pine needles has been particularly  stressed, and methods have been developed to avoid the  bitter and resinous taste of the raw ext. The synthetic  production of I is also discussed. S. Gottlieb.</p>																													
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
<p>1ST AND 2ND ORDERS</p>										<p>PROCESSES AND PROPERTIES INDEX</p>										<p>3RD AND 4TH ORDERS</p>									
<p>1ST AND 2ND ORDERS</p>										<p>PROCESSES AND PROPERTIES INDEX</p>										<p>3RD AND 4TH ORDERS</p>									

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100																									
117 AND 120 UNDER																									
PROCESSES AND PROPERTIES INDEX																									
121 AND 124 UNDER																									
125 AND 128 UNDER																									
129 AND 132 UNDER																									
133 AND 136 UNDER																									
137 AND 140 UNDER																									
141 AND 144 UNDER																									
145 AND 148 UNDER																									
149 AND 152 UNDER																									
153 AND 156 UNDER																									
157 AND 160 UNDER																									
161 AND 164 UNDER																									
165 AND 168 UNDER																									
169 AND 172 UNDER																									
173 AND 176 UNDER																									
177 AND 180 UNDER																									
181 AND 184 UNDER																									
185 AND 188 UNDER																									
189 AND 192 UNDER																									
193 AND 196 UNDER																									
197 AND 200 UNDER																									
201 AND 204 UNDER																									
205 AND 208 UNDER																									
209 AND 212 UNDER																									
213 AND 216 UNDER																									
217 AND 220 UNDER																									
221 AND 224 UNDER																									
225 AND 228 UNDER																									
229 AND 232 UNDER																									
233 AND 236 UNDER																									
237 AND 240 UNDER																									
241 AND 244 UNDER																									
245 AND 248 UNDER																									
249 AND 252 UNDER																									
253 AND 256 UNDER																									
257 AND 260 UNDER																									
261 AND 264 UNDER																									
265 AND 268 UNDER																									
269 AND 272 UNDER																									
273 AND 276 UNDER																									
277 AND 280 UNDER																									
281 AND 284 UNDER																									
285 AND 288 UNDER																									
289 AND 292 UNDER																									
293 AND 296 UNDER																									
297 AND 300 UNDER																									
301 AND 304 UNDER																									
305 AND 308 UNDER																									
309 AND 312 UNDER																									
313 AND 316 UNDER																									
317 AND 320 UNDER																									
321 AND 324 UNDER																									
325 AND 328 UNDER																									
329 AND 332 UNDER																									
333 AND 336 UNDER																									
337 AND 340 UNDER																									
341 AND 344 UNDER																									
345 AND 348 UNDER																									
349 AND 352 UNDER																									
353 AND 356 UNDER																									
357 AND 360 UNDER																									
361 AND 364 UNDER																									
365 AND 368 UNDER																									
369 AND 372 UNDER																									
373 AND 376 UNDER																									
377 AND 380 UNDER																									
381 AND 384 UNDER																									
385 AND 388 UNDER																									
389 AND 392 UNDER																									
393 AND 396 UNDER																									
397 AND 400 UNDER																									
401 AND 404 UNDER																									
405 AND 408 UNDER																									
409 AND 412 UNDER																									
413 AND 416 UNDER																									
417 AND 420 UNDER																									
421 AND 424 UNDER																									
425 AND 428 UNDER																									
429 AND 432 UNDER																									
433 AND 436 UNDER																									
437 AND 440 UNDER																									
441 AND 444 UNDER																									
445 AND 448 UNDER																									
449 AND 452 UNDER																									
453 AND 456 UNDER																									
457 AND 460 UNDER																									
461 AND 464 UNDER																									
465 AND 468 UNDER																									
469 AND 472 UNDER																									
473 AND 476 UNDER																									
477 AND 480 UNDER																									
481 AND 484 UNDER																									
485 AND 488 UNDER																									
489 AND 492 UNDER																									
493 AND 496 UNDER																									
497 AND 500 UNDER																									
501 AND 504 UNDER																									
505 AND 508 UNDER																									
509 AND 512 UNDER																									
513 AND 516 UNDER																									
517 AND 520 UNDER																									
521 AND 524 UNDER																									
525 AND 528 UNDER																									
529 AND 532 UNDER																									
533 AND 536 UNDER																									
537 AND 540 UNDER																									
541 AND 544 UNDER																									
545 AND 548 UNDER																									
549 AND 552 UNDER																									
553 AND 556 UNDER																									
557 AND 560 UNDER																									
561 AND 564 UNDER																									
565 AND 568 UNDER																									
569 AND 572 UNDER																									
573 AND 576 UNDER																									
577 AND 580 UNDER																									
581 AND 584 UNDER																									
585 AND 588 UNDER																									
589 AND 592 UNDER																									
593 AND 596 UNDER																									
597 AND 600 UNDER																									
601 AND 604 UNDER																									
605 AND 608 UNDER																									
609 AND 612 UNDER																									
613 AND 616 UNDER																									
617 AND 620 UNDER																									
621 AND 624 UNDER																									
625 AND 628 UNDER																									
629 AND 632 UNDER																									
633 AND 636 UNDER																									
637 AND 640 UNDER																									
641 AND 644 UNDER																									
645 AND 648 UNDER																									
649 AND 652 UNDER																									
653 AND 656 UNDER																									
657 AND 660 UNDER																									
661 AND 664 UNDER																									
665 AND 668 UNDER																									
669 AND 672 UNDER																									
673 AND 676 UNDER																									
677 AND 680 UNDER																									
681 AND 684 UNDER																									
685 AND 688 UNDER																									
689 AND 692 UNDER																									
693 AND 696 UNDER																									
697 AND 700 UNDER																									
701 AND 704 UNDER																									
705 AND 708 UNDER																									
709 AND 712 UNDER																									
713 AND 716 UNDER																									
717 AND 720 UNDER																									
721 AND 724 UNDER																									
725 AND 728 UNDER																									
729 AND 732 UNDER																									
733 AND 736 UNDER																									
737 AND 740 UNDER																									
741 AND 744 UNDER																									
745 AND 748 UNDER																									
749 AND 752 UNDER																									
753 AND 756 UNDER																									
757 AND 760 UNDER																									
761 AND 764 UNDER																									
765 AND 768 UNDER																									
769 AND 772 UNDER																									
773 AND 776 UNDER																									
777 AND 780 UNDER																									
781 AND 784 UNDER																									
785 AND 788 UNDER																									
789 AND 792 UNDER																									
793 AND 796 UNDER																									
797 AND 800 UNDER																									
801 AND 804 UNDER																									
805 AND 808 UNDER																									
809 AND 812 UNDER																									
813 AND 816 UNDER																									
817 AND 820 UNDER																									
821 AND 824 UNDER																									
825 AND 828 UNDER																									
829 AND 832 UNDER																									
833 AND 836 UNDER																									
837 AND 840 UNDER																									
841 AND 844 UNDER																									
845 AND 848 UNDER																									
849 AND 852 UNDER																									
853 AND 856 UNDER																									
857 AND 860 UNDER																									
861 AND 864 UNDER																									
865 AND 868 UNDER																									
869 AND 872 UNDER																									
873 AND 876 UNDER																									
877 AND 880 UNDER																									
881 AND 884 UNDER																									
885 AND 888 UNDER																									
889 AND 892 UNDER																									
893 AND 896 UNDER																									
897 AND 900 UNDER																									
901 AND 904 UNDER																									
905 AND 908 UNDER																									
909 AND 912 UNDER																									
913 AND 916 UNDER																									
917 AND 920 UNDER																									
921 AND 924 UNDER																									
925 AND 928 UNDER																									
929 AND 932 UNDER																									
933 AND 936 UNDER																									
937 AND 940 UNDER																									
941 AND 944 UNDER																									
945 AND 948 UNDER																									
949 AND 952 UNDER																									
953 AND 956 UNDER																									
957 AND 960 UNDER																									
961 AND 964 UNDER																									
965 AND 968 UNDER																									
969 AND 972 UNDER																									
973 AND 976 UNDER																									
977 AND 980 UNDER																									
981 AND 984 UNDER																									
985 AND 988 UNDER																									
989 AND 992 UNDER																									
993 AND 996 UNDER																									
997 AND 1000 UNDER																									
1001 AND 1004 UNDER																									
1005 AND 1008 UNDER																									
1009 AND 1012 UNDER																									
1013 AND 1016 UNDER																									
1017 AND 1020 UNDER																									
1021 AND 1024 UNDER																									
1025 AND 1028 UNDER																									
1029 AND 1032 UNDER																									
1033 AND 1036 UNDER																									
1037 AND 1040 UNDER																									
1041 AND 1044 UNDER																									
1045 AND 1048 UNDER																									
1049 AND 1052 UNDER																									
1053 AND 1056 UNDER																									
1057 AND 1060 UNDER																									
1061 AND 1064 UNDER																									
1065 AND 1068 UNDER																									
1069 AND 1072 UNDER																									
1073 AND 1076 UNDER																									
1077 AND 1080 UNDER																									
1081 AND 1084 UNDER																									
1085 AND 1088 UNDER																									
1089 AND 1092 UNDER																									
1093 AND 1096 UNDER																									
1097 AND 1100 UNDER																									
1101 AND 1104 UNDER																									
1105 AND 1108 UNDER																									
1109 AND 1112 UNDER																									
1113 AND 1116 UNDER																									
1117 AND 1120 UNDER																									
1121 AND 1124 UNDER																									
1125 AND 1128 UNDER																									
1129 AND 1132 UNDER																									
1133 AND 1136 UNDER																									
1137 AND 1140 UNDER																									
1141 AND 1144 UNDER																									
1145 AND 1148 UNDER																									
1149 AND 1152 UNDER																									
1153 AND 1156 UNDER																									
1157 AND 1160 UNDER																									
1161 AND 1164 UNDER																									
1165 AND 1168 UNDER																									
1169 AND 1172 UNDER																									
1173 AND 1176 UNDER																									
1177 AND 1180 UNDER																									
1181 AND 1184 UNDER																									
1185 AND 1188 UNDER																									
1189 AND 1192 UNDER																									
1193 AND 1196 UNDER																									
1197 AND 1200 UNDER																									
1201 AND 1204 UNDER																									
1205 AND 1208 UNDER																									
1209 AND 1212 UNDER																									
1213 AND 1216 UNDER																									
1217 AND 1220 UNDER																									
1221 AND 1224 UNDER																									
1225 AND 1228 UNDER																									
1229 AND 1232 UNDER																									
1233 AND 1236 UNDER																									
1237 AND 1240 UNDER																									
1241 AND 1244 UNDER																									
1245 AND 1248 UNDER																									
1249 AND 1252 UNDER																									
1253 AND 1256 UNDER																									
1257 AND 1260 UNDER																									
1261 AND 1264 UNDER																									
1265 AND 1268 UNDER																									
1269 AND 1272 UNDER																									
1273 AND 1276 UNDER																									
1277 AND 1280 UNDER																									
1281 AND 1284 UNDER																									
1285 AND 1288 UNDER																									
1289 AND 1292 UNDER																									
1293 AND 1296 UNDER																									
1297 AND 1300 UNDER																									
1301 AND 1304 UNDER																									
1305 AND 1308 UNDER																									
1309 AND 1312 UNDER																									
1313 AND 1316 UNDER																									
1317 AND 1320 UNDER																									
1321 AND 1324 UNDER																									
1325 AND 1328 UNDER																									
1329 AND 1332 UNDER																									
1333 AND 1336 UNDER																									
1337 AND 1340 UNDER																									
1341 AND 1344 UNDER																									
1345 AND 1348 UNDER																									
1349 AND 1352 UNDER																									
1353 AND 1356 UNDER																									
1357 AND 1360 UNDER																									
1361 AND 1364 UNDER																									
1365 AND 1368 UNDER																									
1369 AND 1372 UNDER																									
1373 AND 1376 UNDER																									
1377 AND 1380 UNDER																									
1381 AND 1384 UNDER																									
1385 AND 1388 UNDER																									
1389 AND 1392 UNDER																									
1393 AND 1396 UNDER																									
1397 AND 1400 UNDER																									
1401 AND 1404 UNDER																									
1405 AND 1408 UNDER																									
1409 AND 1412 UNDER																									
1413 AND 1416 UNDER																									
1417 AND 1420 UNDER																									
1421 AND 1424 UNDER																									
1425 AND 1428 UNDER																									
1429 AND 1432 UNDER																									
1433 AND 1436 UNDER																									
1437 AND 1440 UNDER																									
1441 AND 1444 UNDER																									
1445 AND 1448 UNDER																									
1449 AND 1452 UNDER																									
1453 AND 1456 UNDER																									
1457 AND 1460 UNDER																									
1461 AND 1464 UNDER																									
1465 AND 1468 UNDER																									
1469 AND 1472 UNDER																									
1473 AND 1476 UNDER																									
1477 AND 1480 UNDER																									
1481 AND 1484 UNDER																									
1485 AND 1488 UNDER																									
1489 AND 1492 UNDER																									
1493 AND 1496 UNDER																									
1497 AND 1500 UNDER																									
1501 AND 1504 UNDER																									
1505 AND 1508 UNDER																									
1509 AND 1512 UNDER																									
1513 AND 1516 UNDER																									
1517 AND 1520 UNDER																									
1521 AND 1524 UNDER																									
1525 AND 1528 UNDER																									
1529 AND 1532 UNDER																									
1533 AND 1536 UNDER																									
1537 AND 1540 UNDER																									
1541 AND 1544 UNDER																									
1545 AND 1548 UNDER																									
1549 AND 1552 UNDER																									
1553 AND 1556 UNDER																									
1557 AND 1560 UNDER																									
1561 AND 1564 UNDER																									
1565 AND 1568 UNDER																									
1569 AND 1572 UNDER																									
1573 AND 1576 UNDER																									
1577 AND 1580 UNDER																									
1581 AND 1584 UNDER																									
1585 AND 1588 UNDER																									
1589 AND 1592 UNDER																									
1593 AND 1596 UNDER																									
1597 AND 1600 UNDER																									
1601 AND 1604 UNDER																									
1605 AND 1608 UNDER																									
1609 AND 1612 UNDER																									
1613 AND 1616 UNDER																									
1617 AND 1620 UNDER																									
1621 AND 1624 UNDER																									
1625 AND 1628 UNDER																									
1629 AND 1632 UNDER																									
1633 AND 1636 UNDER																									
1637 AND 1640 UNDER																									
1641 AND 1644 UNDER																									
1645 AND 1648 UNDER																									
1649 AND 1652 UNDER																									
1653 AND 1656 UNDER																									
1657 AND 1660 UNDER																									
1661 AND 1664 UNDER																									
1665 AND 1668 UNDER																									
1669 AND 1672 UNDER																									
1673 AND 1676 UNDER																									
1677 AND 1680 UNDER																									
1681 AND 1684 UNDER																									
1685 AND 1688 UNDER																									
1689 AND 1692 UNDER																									
1693 AND 1696 UNDER																									
1697 AND 1700 UNDER																									
1701 AND 1704 UNDER																									
1705 AND 1708 UNDER																									
1709 AND 1712 UNDER																									
1713 AND 1716 UNDER																									
1717 AND 1720 UNDER																									
1721 AND 1724 UNDER																									
1725 AND 1728 UNDER																									
1729 AND 1732 UNDER																									
1733 AND 1736 UNDER																									
1737 AND 1740 UNDER																									
1741 AND 1744 UNDER																									
1745 AND 1748 UNDER																									
1749 AND 1752 UNDER																									
1753 AND 1756 UNDER																									
1757 AND 1760 UNDER																									
1761 AND 1764 UNDER																									
1765 AND 1768 UNDER																									
1769 AND 1772 UNDER																									
1773 AND 1776 UNDER																									
1777 AND 1780 UNDER																									
1781 AND 1784 UNDER																									
1785 AND 1788 UNDER																									
1789 AND 1792 UNDER																									
1793 AND 1796 UNDER																									
1797 AND 1800 UNDER																									
1801 AND 1804 UNDER																									
1805 AND 1808 UNDER																									
1809 AND 1812 UNDER																									
1813 AND 1816 UNDER																									
1817 AND 1820 UNDER																									
1821 AND 1824 UNDER																									
1825 AND 1828 UNDER																									
1829 AND 1832 UNDER																									
1833 AND 1836 UNDER																									
1837 AND 1840 UNDER																									
1841 AND 1844 UNDER																									
1845 AND 1848 UNDER																									
1849 AND 1852 UNDER																									
1853 AND 1856 UNDER																									
1857 AND 1860 UNDER																									
1861 AND 1864 UNDER																									
1865 AND 1868 UNDER																									
1869 AND 1872 UNDER																									
1873 AND 1876 UNDER																									
1877 AND 1880 UNDER																									

CA

17

Calculation of products of production of synthetic ascorbic acid. L. O. Shnaldman. *Vitamin Research News* (U.S.S.R.) 1946, No. 1, 67-73.—An example of the calcns. necessary in the production of ascorbic acid starting with glucose, its hydrogenation, oxidation by *Acetobacter melanogenum*, acetonation of sorbose, oxidation of the latter, enolization, and final purification, is given in detail. G. M. Kosolapoff

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

CA

- Preventing sugar inversion during refining. L. O.  
Shnaldman. U.S.S.R. 69,208, Sept. 30, 1947. Inver-  
sion is prevented by adding alkali to the water used in the  
process to maintain a pH of 7.5-7.8. M. Hosh